

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application of:	)	
	)	
COSTELLO et al.	)	Group Art Unit: 1714
	)	
Application No.: 10/731,600	)	Examiner: Goloboy, J.C.
	)	
Filed: December 9, 2003	)	Date: February 27, 2008
	)	
For: LOW SEDIMENT FRICTION	)	
MODIFIERS	)	

**REPLY BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

The present Reply Brief is being filed in response to the Examiner's Answer mailed December 27, 2007.

**1. Summary of the Invention**

Pending claims 12 through 18 include a single independent Claim 12. Claim 12 recites a lubricant composition. The lubricant composition is an additive mixture to provide a low sediment characteristic for lubricant oils.

Claim 12 recites a lubricant composition, which includes a lubricant oil stock. An amorphous overbased alkaline earth metal sulfonate is added in a concentration sufficient to provide the lubricant oil with a sedimentation rate of no more than about 0.005 percent per week at 70°C for at least 12 weeks. The composition also includes at least one friction modifier, which is selected from a specific group.

## 2. Written Description

Claims 12-18 stand rejected under 35 U.S.C. § 112 for allegedly failing to comply with the written description requirement. Independent Claim 12 and the claims depending therefrom specify a sedimentation rate of “no more than about 0.005% per week at 70°C for at least 12 weeks.” In the Examiner’s Answer, the Patent Office maintains that:

the specification (page 7 lines 18-20, page 10 lines 7-10, and Tables 1-3), as originally filed, places a lower bound of about 0.001% per week on the sedimentation rate. The claims therefore encompass a broader range (a value less than about 0.001% per week sedimentation rate for at least 12 weeks, for example), than is supported by the specification.

[Answer at pp. 3, 8] Appellants disagree.

It is well-established that claimed ranges need not correspond exactly to disclosed ranges. *Ralston Purina Co. v. Far-Mar-Co., Inc.*, 772 F.2d 1570, 227 USPQ 177 (Fed. Cir. 1985). The proper test is whether the disclosure conveys with reasonable clarity to those of ordinary skill that the applicant had in fact invented the composition or process recited in the claims. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 19 USPQ2d 1111 (Fed. Cir. 1991).

The specification, on page 10 line 9 identifies that the sedimentation rate may be “typically about 0.001 to about 0.005.” In addition, several of the examples in the specification indicate that for amorphous overbased alkaline earth metal sulfonates, e.g., C400CLR, in combination with a friction modifier, the sedimentation rate may be less than 0.001 and may be as low as 0. [Specification at Tables 1, 3 & 4]. Examples 6, 8, and 23-27, for example, all indicate that the lubricant compositions of the invention may provide a sedimentation rate that is 0, i.e., which is less than 0.001. Appellants respectfully submit that at least these portions of the specification convey with reasonable clarity to those of ordinary

skill that Appellants in fact invented a lubricant composition having the claimed sedimentation rate of “no more than about 0.005%.” *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 19 USPQ2d 1111 (Fed. Cir. 1991).

The Patent Office also argues that “the specification does not describe a sedimentation rate of no more than 0.005% for an infinite period extending beyond 12 weeks.” [Answer at p. 4] As an initial matter, this argument mischaracterizes the scope of Claim 12, which simply recites that the recited sedimentation rate is maintained “for at least 12 weeks.” Claim 12 does not require for the recited sedimentation rate to be maintained “for infinity.”

Additionally, the test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, rather than the presence or absence of literal support in the specification for the claim language. *In re Kaslow*, 707 F.2d 1366, 217 USPQ 1089 (Fed. Cir. 1983) (citations omitted). The present specification is broadly directed to additive mixtures that provide lubricant oil compositions having “improved lubricity” and “less sedimentation.” [Specification at p. 2, lines 4-5] The specification does not place time limits on these desirable properties, and nowhere does the specification suggest that these benefits would be expected to decrease over time. Indeed, the Examples, although only tested through twelve weeks, show that the sedimentation rate remains substantially constant over that period, strongly conveying to the skilled artisan that the desirably low sedimentation rate would be expected to continue beyond 12 weeks. The disclosure of the application as originally filed more than reasonably conveys to the skilled artisan that the inventor had possession of a lubricant composition

having a sedimentation rate less than 0.005% for at least 12 weeks. Thus, when viewed in its entirety, the present specification fully supports the scope of Claims 12-18. The reversal of this rejection is accordingly requested.

On page 4 of the Examiner's Answer, the Patent Office also maintained that there is no evidence of a sedimentation rate of less than 0.005% per week for a composition containing amorphous overbased calcium sulfonate in a concentration other than 10%. On the contrary, the 10 % concentration is merely a *preferred* concentration for the specifically identified commercial sulfonate. Those skilled in the art would understand from the specification that the specific sulfonate concentration employed may vary widely depending, for example, on the particle size of the sulfonate and the desired sedimentation rate. Obtaining a desired percentage of sedimentation by altering particle size or concentration of the amorphous overbased alkaline earth metal sulfonate is well within the skill of the art. This rejection should be reversed.

**3. Rejection of Claims 12-18 under 35 U.S.C. §103(a)**

Claims 12-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Papay et al. in view of Papke et al.

In the Examiner's Answer, it was asserted that "the fact that appellant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be a basis for patentability when the differences would otherwise be obvious."

[Answer at p. 9] The Patent Office similarly argued that "[i]f the prior art structure is capable of performing the intended use, then it meets the claim." [Answer at p. 4] These arguments are factually incorrect. As discussed in the Appeal Brief, the advantages of the presently claimed invention simply would not naturally flow from the composition disclosed in Papay.

As conceded by the Examiner, Papay is completely silent concerning whether the sulfonate is crystalline or amorphous. [Answer at p. 6] Accordingly, the Papay composition is not necessarily capable of yielding the claimed sedimentation rate of less than 0.005% per week. As evidenced by the Examples in the present specification, the inventors have discovered that the amorphous nature of the claimed overbased alkaline earth metal sulfonate provides surprising and unexpected results over crystalline overbased alkaline earth metal sulfonates. These results are not even hinted at by the Papay disclosure.

On page 10 of the Examiner's Answer it was asserted that "appellant has not submitted evidence of unexpected results sufficient to rebut a prima facie case of obviousness." Specifically, it was argued that the Examples and Tables 1-4 of Appellants' specification are not commensurate with the scope of Claims 12-18. [Answer at p. 10] Appellants disagree. The Examples in the present specification carefully compare amorphous overbased calcium sulfonate with crystalline overbased calcium sulfonate. For a proper comparison of these materials, the conditions employed, e.g., sulfonate concentration and base oil stock, should otherwise be identical. The Examples clearly reflect that amorphous overbased calcium sulfonate significantly reduces sedimentation rate relative to crystalline overbased calcium sulfonate.

The claims are commensurate in scope with these Examples because they all require for the overbased alkaline earth sulfonate to be amorphous. As indicated above, those skilled in the art would recognize that the amount of overbased calcium sulfonate employed in the Examples is merely a *preferred* concentration, and not a limitation on the present claims. Similarly, the oil stock employed in the Examples, Hyprene H100, would not be expected to affect sedimentation rate relative to other oil stocks. Since pending claims 12-18 specifically

recite that the overbased alkaline earth metal sulfonates are amorphous, they are commensurate in scope with the Examples. The surprising and unexpected results reflected by the Examples are strong evidence of non-obviousness, and the rejection should be reversed.

**Conclusion**

For the reasons set forth in the Appeal Brief, as well as the additional reasons presented herein, the rejections of pending Claims 12-18 under 35 U.S.C. §112, paragraph 1, and under 35 U.S.C. §103(a) are not properly founded in the statute, and should be reversed.

Appellants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 625-3500. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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